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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/524,817

09/13/2005

Akira Matsuda

3691-0115PUS1

1607

2292 7590 11/28/2007  
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EXAMINER

SHIN, DANA H

ART UNIT

PAPER NUMBER

1635

NOTIFICATION DATE

DELIVERY MODE

11/28/2007

ELECTRONIC

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

mailroom@bskb.com

<b>Office Action Summary</b>	<b>Application No.</b> 10/524,817	<b>Applicant(s)</b> MATSUDA ET AL.	
	<b>Examiner</b> Dana Shin	<b>Art Unit</b> 1635	

**-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --**

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 09 October 2007.
- 2a) ☒ This action is **FINAL**.                      2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-6 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-6 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 09 October 2007 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All    b) ☐ Some \*    c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- |  |   |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892)   | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)                       | 5) <input type="checkbox"/> Notice of Informal Patent Application                       |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)<br>Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____  |

## **DETAILED ACTION**

### ***Status of Application/Amendment/Claims***

This Office action is in response to the communications filed on and October 9, 2007.

Currently, claims 1-6 are under examination on the merits.

The following rejections are either newly applied or are reiterated and are the only rejections and/or objections presently applied to the instant application.

The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.

### ***Response to Arguments and Amendments***

#### **Withdrawn Rejections**

Any rejections not repeated in this Office action are hereby withdrawn.

#### **Maintained Rejections**

#### ***Claim Rejections - 35 USC § 103***

Claims 1-6 remain rejected under 35 U.S.C. 103(a) as being unpatentable over Brown et al. and Burgess et al. for the reasons of record as set forth in the Office action mailed on June 7, 2007 and for the reasons stated below.

Applicant's arguments filed on October 9, 2007 have been fully considered but they are not persuasive. Applicant contends that the removal of thymidine and uracil from the claims is sufficient to overcome this rejection because Brown et al. do not teach thionucleotides other than

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thymidine and uracil. Applicant is correct that Brown et al. do not teach 4'-thioribonucleoside or 4'-thio-2'-deoxyribonucleoside, wherein the ribonucleoside is adenine, guanine, cytosine, or hypoxanthine as currently amended in the instant case. Nevertheless, Brown et al. taught the feasibility and availability of making and synthesizing RNA containing 4'-thioribonucleoside-triphosphate. Further, Brown et al. taught the advantage and benefit of 4'-thioribonucleoside-triphosphates such that they increase inhibitory activity of siRNA molecules.

Applicant further argues that there would be no reasonable expectation of success because one of ordinary skill in the art would have to perform an undue amount of experimentation to arrive at the claimed invention. In so arguing, applicant asserts that a "chemist would not be expected to try all the different syntheses in Burgess et al., especially in light of Burgess et al. indicating that this type of chemistry is very complex and not showing a thio nucleoside reaction." Contrary to applicant's assertions, one of ordinary skill in the art would have been sufficiently motivated to try different synthesis methods of Burgess et al. and ultimately arrive at the claimed invention without undue experimentation, because Bruggess et al. expressly taught, "Chemists wishing to prepare nucleoside triphosphates with a minimum amount of effort should refer to the procedures listed above...Improved solid-phase syntheses amenable to automation or genuinely combinatorial approaches would be particularly timely."

See page 2058. (emphasis added)

Since the methods of synthesizing and incorporating 4'-thioribonucleoside-triphosphates as well as the benefits conferred by the 4'-thioribonucleoside-triphosphates were known in the art at the time of the invention as taught by Brown et al., and since a finite number of available methods of synthesizing nucleoside triphosphates for different nucleobase derivatives were

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known in the art at the time of the invention as taught by Burgess et al., it would have been obvious to one of ordinary skill in the art to arrive at the claimed invention with a reasonable expectation of success. Further, since Burgess et al. taught that any chemist could amend or combine the different approaches of preparing nucleoside triphosphates with a minimum amount of effort, a person of ordinary skill in the art would have had a reasonable expectation of success in making the claimed invention at the time the invention was made. In view of the reasons stated above, this rejection is maintained.

### ***Conclusion***

No claim is allowed.

**THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than **SIX MONTHS** from the mailing date of this final action.

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Any inquiry concerning this communication or earlier communications from the examiner should be directed to Dana Shin whose telephone number is 571-272-8008. The examiner can normally be reached on Monday through Friday, from 8am-4:30pm EST.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, James Douglas Schultz can be reached on 571-272-0763. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

Dana Shin  
Examiner  
Art Unit 1635

/J. E. Angell/  
Primary Examiner  
Art Unit 1635